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(54) ROLLER BEARING FILLED WITH LUBRICANT CONTAINED POLYMER AND MANUFACTURE THEREOF

(57) Abstract:

PROBLEM TO BE SOLVED: To ensure a smooth rotation irrespective of kinds of lublicant contained polymer to be filled by forming coating of solid lubricant at least on the inner circumferential surface of an outer ring and the outer circumferential surface of an inner ring and the surface of rolling bodies.

SOLUTION: A ball bearing 1 is assembled in its bearing by a conventional method, then, after degreasing and washing steps are performed, coating 5 composed of solid lublicant is formed on the inner circumferential surface of an outer ring 2, the outer circumferential surface of an inner ring 3, and the surface of a ball 4, and lublicant contained polymer 6 is filled in a space defined by the rings 2, 3 and the ball 4. As the solid lublicant polytetrafluoroethylene, graphite fluoride, or the like is for example used, through there is no special limitation to the selection while as the lublicant contained polymer 6 those composed of thermoplastic resin such as polyethylene, grease and lublicant are for example used, through there is no special limitation to the selection. With this constitution, the outer ring 2, the inner ring 3 and the ball 4 are not in contact with each other, and coating 5 prevents the intrusion of worn powder of lublicant polymer 6 into the gap therebetween, which worn powder is gradually separated by one rotation of the ball bearing 1 to contribut lublication. Accordingly, the smooth ball rotation is ensured with low torque over a long period of time from the initial stage of operation.